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CLAIMS

What is claimed is:

1. A method of automatically controlling the exposure time of an image sensor, said

10 image sensor including a matrix of pixels, said method comprising:

determining a value NW as the number of pixels in said matrix that output a pixel signal greater than a value VHIGH;

determining a value NB as the number of pixels in said matrix that output a pixel signal less than a value VLOW;

determining a value NVW as the number of pixels in said matrix that output a pixel signal greater than a value VSHIGH;

determining a value NVB as the number of pixels in said matrix that output a pixel signal less than a value VSLOW;

determining if NW is greater than a first predetermined high threshold KW, and if so:

determining if NVW is greater than a second predetermined high threshold KVW, and if so, decreasing said exposure time by a first decrease percentage P1, but if not, decreasing said exposure time by a second decrease percentage P2; and

determining if NB is greater than a first predetermined low threshold KB, and if so:

determining if NVB is greater than a second predetermined low threshold KVB, and if so, increasing said exposure time by a first increase percentage P3, but if not, increasing said exposure time by a second increase percentage P4.

2. The method of Claim 1 wherein VSLOW is less than VLOW and further wherein VSHIGH is greater than VHIGH.

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- 3. The method of Claim 1 wherein said first decrease percentage P1 is greater than said second decrease percentage P2.
 - 4. The method of Claim 3 wherein P1 is about 50 percent and P2 is about 6 percent.
- 5. The method of Claim 1 wherein said first increase percentage P3 is greater than said second increase percentage P4.
- 6. The method of Claim 5 wherein P3 is about 100 percent and P4 is about 6 percent.
- 7. The method of Claim 1 wherein said predetermined values of KB and KW are about 75% and 25% of the total number of pixels in said matrix.
- 8. A method of automatically controlling the amplification gain of an image sensor, said image sensor including a matrix of pixels, said method comprising:

determining a value NW as the number of pixels in said matrix that output a pixel signal greater than a value VHIGH;

determining a value NB as the number of pixels in said matrix that output a pixel signal less than a value VLOW;

determining a value NVW as the number of pixels in said matrix that output a pixel signal greater than a value VSHIGH;

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determining a value NVB as the number of pixels in said matrix that output a pixel signal less than a value VSLOW;

determining if NW is greater than a first predetermined high threshold KW, and if so:

determining if NVW is greater than a second predetermined high threshold KVW, and if so, decreasing said amplification gain by a first decrease percentage P1, but if not, decreasing said amplification gain by a second decrease percentage P2; and

determining if NB is greater than a first predetermined low threshold KB, and if so:

determining if NVB is greater than a second predetermined low threshold KVB, and if so, increasing said amplification gain by a first increase percentage P3, but if not, increasing said amplification gain by a second increase percentage P4.

- 9. The method of Claim 8 wherein VSLOW is less than VLOW and further wherein VSHIGH is greater than VHIGH.
- 10. The method of Claim 8 wherein said first decrease percentage P1 is greater than said second decrease percentage P2.
- 11. The method of Claim 10 wherein P1 is about 50 percent and P2 is about 6 percent.
- 12. The method of Claim 8 wherein said first increase percentage P3 is greater than said second increase percentage P4.

13. The method of Claim 12 wherein P3 is about 100 percent and P4 is about 6 percent.

14. The method of Claim 8 wherein said predetermined values of KB and KW are about 75% and 25% of the total number of pixels in said matrix.